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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,560	02/25/2002	Jack Elias Seitner	18180.0232	8240

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MCDERMOTT WILL & EMERY
18191 Von Karman Ave
Suite 400
Irvine, CA 92612

EXAMINER

HENEGHAN, MATTHEW E

ART UNIT	PAPER NUMBER
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2134

DATE MAILED: 10/01/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,560

Applicant(s)

SEITNER, JACK ELIAS

Examiner

Matthew Heneghan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9,14.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15 have been examined.

Information Disclosure Statement

2. The following Information Disclosure Statement(s) in the instant application have been fully considered:

Paper No. 9, filed 9 June 2003.

Paper No. 14, filed 10 May 2004.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the description: page 6, item "21"; page 8, generator "24"; page 14, item "53".
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character not mentioned in the description: figure 1, "PASSWORD 24".
5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with

37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The abstract should not discuss the merits of the invention, but rather simply summarize the method by which the Gaussian pseudo-random noise signal is incorporated into the signal.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 4 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,596,570 to Soliman.

As per claims 1 and 4, Soliman discloses an interference generator that takes a received analog signal ("forward traffic," see column 19, line 14), converts it into an IF signal, while generating a white Gaussian noise signal (see column 18, lines 35-38 and column 19, lines 23-39), and are combined into a signal to be sent by an RF transmitter (see column 19, lines 40-45).

8. Claims 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,848,160 to Cai et al.

Cai discloses a receiver wherein a receiver receives a signal, converts it to intermediate frequency signals using mixers (which are frequency converters), and combines it with a generated Gaussian pseudo-random noise signal (see column 5, lines 16-37).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 9, 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. in view of U.S. Patent No. 5,596,570 to Soliman.

Regarding claim 1, Cai discloses a transmission method for scrambling communication data, wherein the data is modulated with a Gaussian pseudo-random noise signal (see column 2, lines 45-52).

Cai does not disclose whether the data being scrambled is originally embodied in a digital or an analog form, and does not convert the data into an intermediate frequency signal before combining it with the Gaussian noise signal.

Soliman discloses the combining of an intermediate frequency signal derived from a received analog signal with a Gaussian noise signal, as described above. Soliman further suggests that this allows for the adjusting of the noise signal based on the composite signal energy of the analog signal ("first composite energy") (see column 3, lines 19-32 and line 65 to column 4, line 6).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai by combining an intermediate

frequency signal derived from a received analog signal with a Gaussian noise signal, as disclosed by Soliman, as this allows for the adjusting of the noise signal based on the composite signal energy of the analog signal

Regarding claim 9, steps (e)-(g) are as in the rejection of claim 5, above.

As per claim 11, the noise signal may be based on a cryptographic key or seed (see Cai, column 2, lines 58-64), and later passed through a low-pass filter (see column 3, line 1).

As per claim 12, a RF signal is produced (see Cai, column 3, lines 7-10).

Regarding claim 15, the combination of the mixers and the local oscillator (see Cai, column 5, lines 16-24) constitute a frequency converter.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,596,570 to Soliman as applied to claim 1 above, and further in view of U.S. Patent No. 4,817,192 to Phillips et al.

Soliman sends a variety of types of traffic in its simulation, but does not include single side band frequencies.

Phillips discloses the use of single side band for the transmission of RF voice traffic, and further suggests that this allows for reduced bandwidth (see column 1, lines 54-57).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Soliman to support the sending of single

side band signals, as disclosed by Phillips, since they are useful because of reduced bandwidth.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. in view of U.S. Patent No. 5,596,570 to Soliman as applied to claim 1 above, and further in view of U.S. Patent No. 4,112,369 to Forman et al.

Cai discloses the noise signal being based upon a seed or cryptographic key before being sent through a low-pass filter, as described above, but does not disclose the use of a password in signal generation.

Forman discloses the use of a password to create the random number seed, and suggests that this makes the system virtually impossible to break (see column 3, lines 8-21).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai and Soliman by using a password to create the random number seed, as disclosed by Forman, as this makes the system virtually impossible to break.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. as applied to claim 5 above, and further in view of U.S. Patent No. 4,817,192 to Phillips et al.

Cai sends an RF signal, but does not specifically designate single side band frequencies.

Phillips discloses the use of single side band for the transmission of RF voice traffic, and further suggests that this allows for reduced bandwidth (see column 1, lines 54-57).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai to support the sending of single side band signals, as disclosed by Phillips, since they are useful because of reduced bandwidth.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. as applied to claim 5 above, and further in view of U.S. Patent No. 4,112,369 to Forman et al. further in view of U.S. Patent No. 4,213,101 to Policand et al.

Cai discloses the noise signal being based upon a seed or cryptographic key before being sent through a low-pass filter, as described above, but does not disclose the use of a password in signal generation.

Forman discloses the use of a password to create the random number seed, and suggests that this makes the system virtually impossible to break (see column 3, lines 8-21).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai by using a password to create the

random number seed, as disclosed by Forman, as this makes the system virtually impossible to break.

Cai and Forman also do not disclose the filtering of the generated noise signal before applying it to the analog signal.

Policand discloses that one can obtain a Gaussian signal by filtering a binary sequence (see column 1, lines 18-22).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai and Forman by filtering the sequence from the generator, as disclosed by Policand, in order to generate a Gaussian signal.

14. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. in view of U.S. Patent No. 5,596,570 to Soliman as applied to claim 9 above, and further in view of U.S. Patent No. 4,817,192 to Phillips et al.

Cai and Soliman send an RF signal, but do not specifically designate single side band frequencies.

Phillips discloses the use of single side band for the transmission of RF voice traffic, and further suggests that this allows for reduced bandwidth (see column 1, lines 54-57).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai and Soliman to support the sending

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of single side band signals, as disclosed by Phillips, since they are useful because of reduced bandwidth.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,848,160 to Cai et al. in view of U.S. Patent No. 5,596,570 to Soliman as applied to claim 11 above, and further in view of U.S. Patent No. 4,213,101 to Policand et al.

Cai and Soliman do not disclose the filtering of the generated noise signal before applying it to the analog signal.

Policand discloses that one can obtain a Gaussian signal by filtering a binary sequence (see column 1, lines 18-22).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Cai and Policand by filtering the sequence from the generator, as disclosed by Policand, in order to generate a Gaussian signal.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,022,078 to Zelenz discloses a scrambling system using Gaussian noise signals.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Heneghan, whose telephone number is (703) 305-7727. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 8:30 AM - 4:30 PM Eastern Time. Beginning in October 2004, the telephone number is being changed to (571) 272-3834.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached on (703) 308-4789 (beginning in October, (571) 272-3838).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9306

Until October, hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive, Arlington, VA 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900 (beginning in October, (571) 272-2100).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should


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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEH



September 30, 2004



GREGORY MORSE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100